

IN THE CLAIMS:

1-27. (Cancelled)

28. (Previously Presented) A method, comprising:

estimating visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said plurality of satellites being satellites of a satellite positioning system, wherein obstructions in the vicinity of the estimated location of the mobile station are taken into account in estimating the visibilities of the plurality of satellites with respect to the mobile station;

selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

sending, to the mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

29. (Previously Presented) The method as defined in claim 28, wherein said group of satellites contains a predetermined number of satellites.

30. (Previously Presented) The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent in one location assistance message.

31. (Previously Presented) The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent using a plurality of location assistance messages, each location assistance message of said plurality of location assistance messages containing information about one satellite of said satellite positioning system.

32. (Previously Presented) The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent in response to receipt of a location assistance information request from the mobile station.

33. (Previously Presented) The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent periodically.

34. (Previously Presented) The method as defined in claim 28, further comprising:

selecting a further group of satellites with the next best estimated visibilities with respect to the mobile station.

35. (Previously Presented) The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent to the mobile station before location assistance information relating to said further group of satellites.

36. (Previously Presented) The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent in a first location assistance message and location assistance information relating to said further group of satellites is sent in a second location assistance message.

37. (Previously Presented) The method as defined in claim 34, wherein location assistance information is sent using a plurality of location assistance messages, each location assistance message of said plurality of location assistance messages containing information about one satellite of said satellite positioning system.

38. (Previously Presented) The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent in response to receipt of a location assistance information request from the mobile station.

39. (Previously Presented) The method as defined in claim 38, wherein location assistance information relating to said further group of satellites is sent to the mobile station upon a request for location assistance information relating to said further group.

40. (Previously Presented) The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent periodically.

41. (Previously Presented) The method as defined in claim 40, wherein location assistance information relating to said further group of satellites is sent as often as location assistance information relating to said group of satellites.

42. (Previously Presented) The method as defined in claim 40, wherein location assistance information relating to said further group of satellites is sent less often than location assistance information relating to said group of satellites.

43. (Previously Presented) The method as defined in claim 34, wherein location information relating to said group of satellites and to said further group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

44. (Previously Presented) The method as defined in claim 28, wherein said group of satellites contains three or four satellites of the satellite positioning system.

45-46. (Cancelled)

47. (Previously Presented) The method as defined in claim 28, wherein said location assistance information is for a mobile-assisted location method.

48. (Previously Presented) The method as defined in claim 28, wherein said location assistance information is for a mobile-based location method.

49. (Previously Presented) An apparatus, comprising:
an estimator configured to estimate visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said satellites being satellites of a satellite positioning system, wherein the estimator is further configured to take into account obstructions in the vicinity of the estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

a transmitter configured to transmit, to a mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance

information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

50. (Previously Presented) The apparatus as defined in claim 49, further comprising:

a receiver configured to receive location assistance information relating to satellites of said satellite positioning system.

51. (Previously Presented) The apparatus as defined in claim 49, wherein the network element is a location server.

52. (Previously Presented) A system, comprising:

a receiver configured to receive a satellite positioning system configured to obtain location assistance information relating to satellites of the satellite positioning system;

an estimator configured to estimate visibilities of a plurality of satellites of the satellite positioning system based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, wherein the estimator is further configured to take into account obstructions within the vicinity of the estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

a transmitter configured to transmit, to the mobile station, location assistance information relating to said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

53. (Previously Presented) The system as defined in claim 52, wherein said estimator is provided in a location server.

54. (Previously Presented) The system as defined in claim 52, wherein said estimator is provided in a number of network elements.

55. (Previously Presented) An apparatus, comprising:

a receiver configured to receive a satellite positioning system configured to obtain location assistance information relating to satellites of the satellite positioning system;

an estimator configured to estimate visibilities of a plurality of satellites of the satellite positioning system based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, wherein the estimator is further configured to take into account obstructions within the vicinity of the estimated location

of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

a transmitter configured to transmit to the mobile station, location assistance information relating to said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

56. (Previously Presented) An apparatus, comprising:

estimating means for estimating visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said satellites being satellites of a satellite positioning system, wherein the estimating means takes into account obstructions within the vicinity of the estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

selecting means for selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

transmitting means for transmitting to a mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance

information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

57. (Previously Presented) A computer program embodied on a computer readable medium, the computer program being configured to control a processor to perform:

estimating visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said plurality of satellites being satellites of a satellite positioning system, wherein obstructions in the vicinity of the estimated location of the mobile station are taken into account in estimating the visibilities of the plurality of satellites with respect to the mobile station;

selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

sending, to the mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.